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| APPLICATION NO.                                                                                         | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/736,238                                                                                              | 12/12/2003  | Hua-Jan Lo           | 3304.2.105          | 3151             |
| 21552                                                                                                   | 7590        | 08/29/2005           | EXAMINER            |                  |
| MADSON & METCALF<br>GATEWAY TOWER WEST<br>SUITE 900<br>15 WEST SOUTH TEMPLE<br>SALT LAKE CITY, UT 84101 |             |                      | TRAN, ANH Q         |                  |
|                                                                                                         |             | ART UNIT             | PAPER NUMBER        |                  |
|                                                                                                         |             | 2819                 |                     |                  |

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

|                 |              |  |
|-----------------|--------------|--|
| Application No. | Applicant(s) |  |
| 10/736,238      | LO ET AL.    |  |
| Examiner        | Art Unit     |  |
| Anh Q. Tran     | 2819         |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1) Responsive to communication(s) filed on 24 June 2005.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

4) Claim(s) 1-3 and 6-19 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,8-12 and 14-19 is/are rejected.

7) Claim(s) 2,3,6,7 and 13 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 14 recites the limitation "said first sub-circuit" and "said second subcircuit" in the claim. There is insufficient antecedent basis for this limitation in the claim.

Claims 15-16 are rejected as dependent on claim 14.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Rahman (6,639,434).

1. Rahman shows a device (200, Fig. 2), comprising:

a signal driving circuit (202) for generating and outputting an analog image signal to an LVDS receiving device (204), comprising a differential signaling device including at least four transistors (226, 228, 230, 232), a first current source (224) including a transistor (M9B) coupled between a power source (vdd25!) and said differential

signaling device, and a second current source including at least two transistors (238, 240, 242, 244) coupled between said differential signaling device and ground (vss!); and a signal compensation circuit (212) in communication with said signal driving circuit, generating a compensation signal in response to said analog image signal (VCM) and a base signal (1.2V or 0.6V), and feeding said compensation signal back to said signal driving circuit to compensate the current signal variation of said first current source (col. 3, lines 34-37) so as to stabilize said analog image signal generated by said signal driving circuit.

8. Rahman shows wherein said signal driving circuit is electrically connected to two serially connected resistors (234, 236) of said LVDS receiving device for transmitting said analog image signal with a swing of 300 mv -350 mv to said LVDS receiving device.

Claims 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Morgan et al (6,744,280).

10. Morgan shows a compensation circuit for use with a signal driving circuit (280, Fig. 5) of a low voltage differential signaling (LVDS) transmitting device, comprising: a signal converting circuit (230) receiving an analog image signal (Vcm) from said signal driving circuit, and generating a compensation signal according to a voltage difference between said analog image signal and a base signal (VBG); and a current mirror circuit (MN16 and MN15 connected as a current mirror circuit) in communication with said signal driving circuit and said signal converting circuit, feeding

said compensation signal back (current from MN16 is feedback to MP55) to a specified current source (MP55) of said signal driving circuit coupled between a power source (VCC) and a differential signaling device of said signal driving circuit for compensating signal variation of said signal driving circuit.

11. Morgan shows the compensation circuit according to claim 10 wherein said signal converting circuit is a voltage-to-current converting circuit for outputting said compensation signal as a current type (I8).

12. Morgan shows the compensation circuit according to claim 10 wherein said base signal is a constant voltage signal generated by a band-gap circuit (inherent limitation since VBG is a bandgap voltage, col. 5, line 11).

17. Morgan shows the compensation circuit according to claim 10 further comprising a first (R111) and a second (R112) shunting resistors electrically connected between said signal driving circuit and said signal converting circuit for shunting said analog image signal before said analog image signal is transmitted to said signal converting circuit.

18-19. the apparatus described above is applicable to the method claims.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rahman (6,639,434) in view of Yamauchi (6,356,141).

Rahman discloses the claimed invention except for the base signal is a band-gap voltage signal generated by a band-gap circuit.

Yamauchi discloses a base signal is a band-gap voltage signal generated by a band-gap circuit (50, Fig. 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the base signals of Rahman with the band-gap voltage signal generated by the band-gap circuit of Yamauchi, in order to generate constant voltage independent of the change in temperature and power supply.

#### ***Allowable Subject Matter***

5. Claims 2-3, 6-7, 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

-a first and a second a first and a second current mirror circuits for feeding said compensation signal back to said signal driving circuit, wherein said first current mirror circuit is coupled to said voltage-to- current converting circuit and ground, and said

second current mirror circuit is coupled to said first current mirror circuit, a power source and a differential signaling circuit of said signal driving circuit.

-the current mirror circuit includes a first and a second sub-circuits, each comprising two transistors.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Q. Tran whose telephone number is 571-272-1813. The examiner can normally be reached on M-TH (7:00-5:30) Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANH Q. TRAN  
PRIMARY EXAMINER



8/25/05